

217/782-2113

LIFETIME OPERATING PERMIT

PERMITTEE

Trigen-Peoples District Energy Center
Attn: Michael Smedley
2211 South Dr. Martin Luther King, Jr. Drive
Chicago, Illinois 60616

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| <u>Application No.:</u> 95030037 | <u>I.D. No.:</u> 031600FVB |
| <u>Applicant's Designation:</u> | <u>Date Received:</u> November 14, 2002 |
| <u>Subject:</u> Gas Turbines, Package Boilers and HRSG | |
| <u>Date Issued:</u> February 7, 2003 | <u>Expiration Date:</u> See Condition 1. |
| <u>Location:</u> 2211 South Dr. Martin Luther King, Jr. Drive, Chicago, 60616 | |

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of:

3 Gas Turbines (1, 2, and 3)
2 Package Boilers
One Heat Recovery Steam Generator (HRSG) All Natural Gas Fired

pursuant to the above-referenced application. This permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This permit shall expire 180 days after the Illinois EPA sends a written request for the renewal of this permit.
- b. This permit shall terminate if it is withdrawn or is superseded by a revised permit.
- 2a. The 3 gas turbines (#1, #2, and #3), Heat Recovery Steam Generator (HRSG) and 2 package boilers are subject to the New Source Performance Standards (NSPS) for stationary gas turbines, small steam generating units and 40 CFR 60, Subparts A, GG and Dc respectively. The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
 - b.
 - i. The nitrogen oxide and sulfur dioxide emissions from the combustion turbine shall not exceed the applicable standards of NSPS, 40 CFR 60.332 and 60.333 respectively.
 - ii. For the HRSG and the package boilers the Permittee shall fulfill applicable recordkeeping requirements of the NSPS, 40 CFR 60.48c and 60.116b respectively to demonstrate that emission limits and control requirements of the NSPS are not applicable.
 - c. At all times, the Permittee shall also, to the extent practicable, maintain and operate the combustion turbine, duct burner and the auxiliary boiler, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.
- 3a. Natural gas shall be the only fuel used for the gas turbines, HRSG, and package boilers.

- b. Nitrogen oxide emissions (NO_x) and carbon monoxide (CO) shall not exceed:

| <u>Units</u> | <u>Nitrogen Oxide Emissions</u> | | <u>Carbon Monoxide Emissions</u> | |
|-----------------|---------------------------------|----------------|----------------------------------|----------------|
| | <u>(Lb/mmBtu)</u> | <u>(Lb/Hr)</u> | <u>(Lb/mmBtu)</u> | <u>(Lb/Hr)</u> |
| HRSG and | | | | |
| Package Boilers | 0.10 | 8.94 | 0.15 | 13.40 |
| Gas Turbines | 0.37 | 5.25 | 0.18 | 2.55 |

These limits define the potential emissions of nitrogen oxide and restrict the combined operation of each category. The emission factors (lb/mmBtu) are based on manufacturer's guarantees for the gas turbines and manufacturer's guarantees for the use of low NO_x burners in the boilers and HRSG. Pound/hour (lb/hr) limits are based on the operation of the individual emission units.

- c. Emission of particulate matter (PM) and volatile organic material (VOM) shall not exceed the following limits:

| <u>Contaminant</u> | <u>HRSG and Package</u> | | <u>Gas Turbines</u> | |
|--------------------|-------------------------|----------------|---------------------|----------------|
| | <u>(Lb/mmBtu)</u> | <u>(Lb/Hr)</u> | <u>(Lb/mmBtu)</u> | <u>(Lb/Hr)</u> |
| PM | 0.0074 | 0.67 | 0.0066 | 0.093 |
| VOM | 0.0054 | 0.48 | 0.0021 | 0.030 |

These emission limits are based on standard AP-42 (Table 1.4-2 and 3.1-2a) emission factors and procedures. Pound/hour (lb/hr) limits are based on the operation of the individual emission units.

- d. The combined emissions at the source from the HRSG and package boilers and gas turbines shall not exceed the following:

| | <u>E M I S S I O N S</u> | | <u>I O N S</u> | |
|---------------|--------------------------|------------------|------------------|------------------|
| | <u>NO_x</u> | <u>CO</u> | <u>PM</u> | <u>VOM</u> |
| | <u>(Tons/Yr)</u> | <u>(Tons/Yr)</u> | <u>(Tons/Yr)</u> | <u>(Tons/Yr)</u> |
| TPDEC (Total) | 56.45 | 52.8 | 6.7 | 10.1 |

- f. Compliance with annual limits shall be determined from a running total of 12 months data.
4. These conditions effectively limit the potential emissions of air pollutants from the source to less than major source thresholds for nitrogen dioxide, carbon monoxide, particulate matter, and sulfur dioxide material to less than 100 tons per year and 25 tons per year for volatile organic material. As a result, the source is excluded from the requirements to obtain a Clean Air Act Permit Program (CAAPP) permit.
- 5a. The Permittee shall install, evaluate, operate and maintain a continuous monitoring system to monitor and record the fuel consumption, sulfur content, nitrogen content of the fuel in accordance with the provisions of 40 CFR 60.334.

- b. The Permittee shall install and operate a continuous monitoring system to monitor and record the fuel consumption of the HRSG and the package boilers.
- 6a. The Permittee shall fulfill applicable notification and record keeping requirements of the NSPS, 40 CFR 60.7 for the gas turbine, HRSG and package boilers.
- b. Monitoring of fuel nitrogen content is not required while pipeline quality natural gas, as defined in 40 CFR 72.2, is being fired in the turbines.
- c. The above provisions established a custom schedule for determination of sulfur content and nitrogen content of fuel, subject to case-specific approval by USEPA pursuant to 40 CFR 60.13(i), in which approval USEPA may establish additional requirements upon the Permittee for sampling and analysis of fuel.
- d. The Permittee shall maintain records of the following operating data, and such other items as may be appropriate to allow the Illinois EPA to review compliance with the requirements of this permit.
 - i. Daily natural gas meter records for each piece of equipment shall be recorded.
 - ii. Firing rate of the turbines, HRSG and package boilers, on an hourly basis.
 - iii. Daily emissions of NO_x and CO.
 - iv. Sulfur content of the fuel shall be obtained quarterly from the natural gas supplier.
- 7. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
- 8. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
- 9. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

10. Persons with lifetime operating permits must obtain a revised permit for any of the following changes at the source:
 - a. An increase in emissions above the amount the emission unit or the source is permitted to emit;
 - b. A modification;
 - c. A change in operations that will result in the source's noncompliance with conditions in the existing permit; or
 - d. A change in ownership, company name, or address, so that the application or existing permit is no longer accurate.

If you have any questions on this permit, please contact Mike Dragovich at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

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cc: Illinois EPA, FOS, Region 1
Illinois EPA, Compliance Section
Lotus Notes